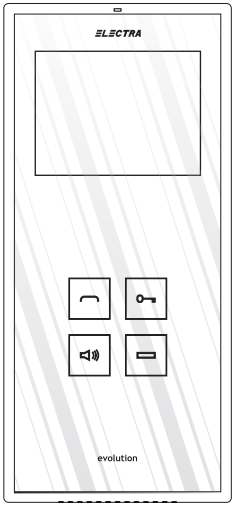
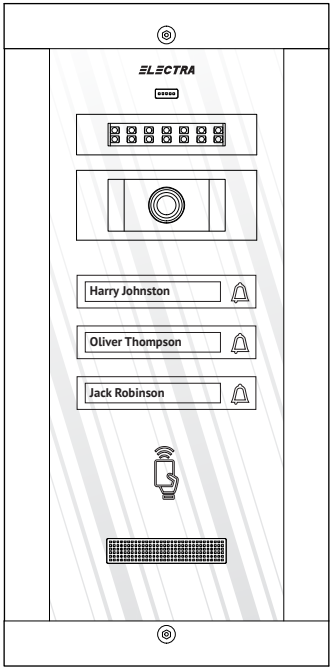
USER MANUAL

EN

KIT VIDEO DOOR PHONE evolution
3 families

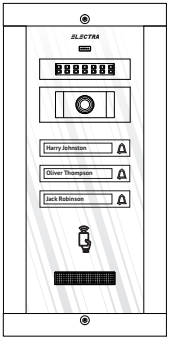
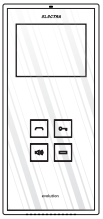
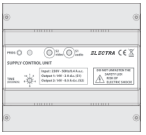




- Call from the Outdoor panel's keys;
- Possibility to see on the Terminal's display the person calling ;
- Full duplex hands-free audio communication;
- Command of the access gate/door opening from the indoor Terminal ;
- Video and audio monitoring of the entrance of the property, by the inhabitant;
- *Optional connection of up to 4 additional video cameras;*
- *Optional auxiliary command: auto-access, garage door, etc.;*
- *Optional 1 video Terminal or up to 3 audio Terminals in parallel, for each family;*
- *Optional maximum 3 Outdoor panels in parallel;*
- UTP CAT 5e (AWG 24) cable required.

ELECTRA

1 KIT COMPONENTS

				
Outdoor panel 1 pc. 294 × 144 × 53 mm	Indoor terminal 3 pcs. 212 × 96 × 30 mm	Supply control unit 1 pc. 130 × 141 × 73 mm	Video connection box 1 pc. 100 × 71 × 60 mm	Access tag 15 pcs. 35 x 62 x 7 mm

2 TECHNICAL FEATURES OF THE SYSTEM

Audio communication	Full-duplex
Data communication	Digital
Video communication	Analog video signal
Supply tension of the system (supply of the control unit)	230 V±10% / 50 Hz
Maximum power expenditure from the 230 V AC network	0,4A AC

2.1 Technical features of the Outdoor video panel

Supply tension	12,0 ... 14,3 V DC(stabilized)
Steerable video camera module	- CCD, 1/3", 573(H) x 597(V) pixel resolution; 420 TV Lines; - angle of visualization: 96° horizontal, 45° vertical; - video signal: 1Vvv/75 PAL; - presence of video camera – 1 RED LED, intermittently on; - left-right rotation angle: ± 25°
Infrared illumination	13 LED's = 850 nm; 7mW/sr per LED radiated luminous intensity

Keyboard	TOUCH type, permanently backlit
Display of the inhabitant's name	Backlit name space
Case	Aluminum profile painted in electrostatic field; Secured glass screen, 8 mm thick
Mounting	Flush
Casing protection level (IP)	IP44
Operating temperature range	- 30° C ... + 60°C
Transport and storage temperature range	- 33° C ... + 55° C
Dimensions	294 x 144 x 53 mm
Weight	1,52 kg

2.2 Technical features of the video Terminal

Supply tension	12,0 ... 14,3 V DC(stabilized)
Display	3.5" or 2.4" LEC, TFT, resolution: 320 x RGB x 240; Display Up/down/right/left visibility angle: 10/35/50/50
Keyboard	TOUCH type,4 keys Backlit on touch
	Permanent RED signaling of the VOLUME key if the terminal is turned off.
Adjustments	Audio communication volume: MAXIMUM LEVEL – MEDIUM LEVEL – TURNED OFF - Image characteristics: luminosity, chrominance, video impedance adjustment
Case	ABS Glass screen, 3 mm thick
Mounting	Surface
Casing protection level (IP)	IP31
Operating temperature range	0°C ... + 45°C
Range of transport and storage temperatures	- 33°C ... + 55°C
Dimensions	212 x 96 x 30 mm
Weight	0,4 kg

2.3 Technical features of the Supply control unit

Supply tension	230V±10%/50Hz
Generated power tensions/ power capability	+14V - GND : +14V DC (stabilized)/ 2A DC + Uv - GND : +14V DC (stabilized) / 0.5A DC Vcam - GND : +12V DC (stabilized) / 0.4A DC
Case	Fireproof ABS
Mounting	- On DIN rail: TH 35 x 15 or 35 x 7,5 in compliance with DIN46277-3, EN50022, IEC60715 - Surface: with A3,5 x 32 plastic screws and ø 6 mm pins
Casing protection level	IP31
Operating temperature range	0°C ... + 45°C
Transport and storage temperature range	- 33°C ... + 55°C
Dimensions	130 x 141 x 73 mm
Weight	0,4 kg

2.5 Technical features of the Video connection box

Main input – output	1
Outputs (derivations)	2
Case	ABS
Mounting	-On DIN rail: TH 35 x 15 or 35 x 7,5 in compliance with DIN46277-3, EN50022, IEC60715 -Surface: with plastic screws and pins
Casing protection level (IP)	IP31
Operating temperature range	0° C ... + 45° C
Range of transport and storage temperatures	- 33° C ... + 55° C
Dimensions	100 x 71 x 60 mm
Weight	0,21 kg

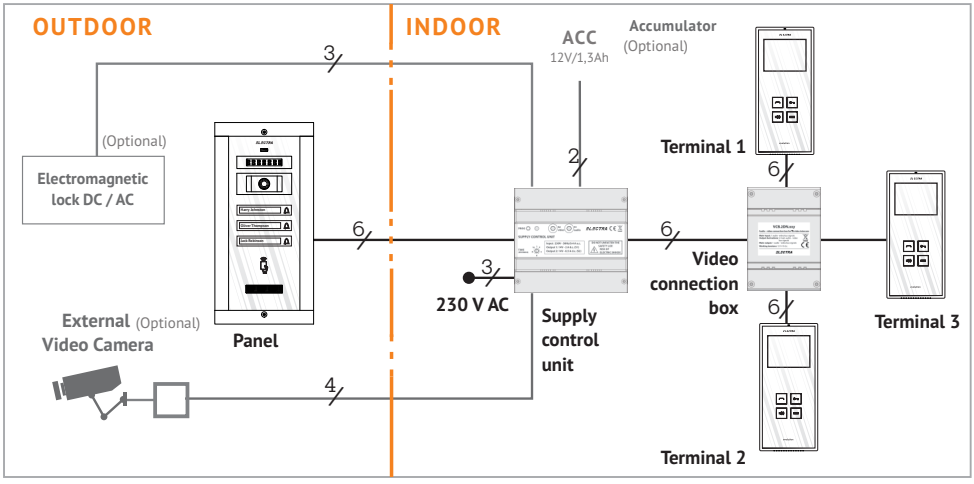
2.5 Technical features of the Access tag

Functioning frequency	125kHz

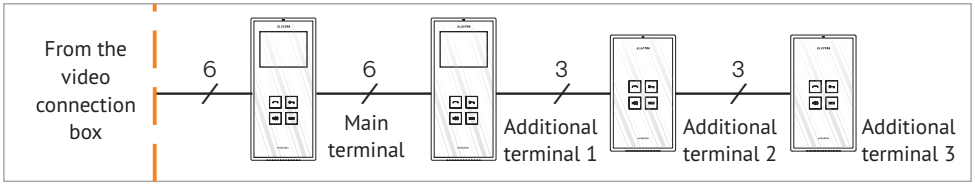
Access code security level	1 out of 1.099.511.627.700
Reading distance	25 mm
Case	ABS
Casing protection level (IP)	IP 65
Operating temperature range	-30°C ... + 60°C
Range of transport and storage temperatures	- 33°C ... + 55°C
Dimensions	35 x 62 x 7 mm
Weight	7,5 g

3 BLOCK DIAGRAM OF THE SYSTEM

All additional products are sold separately.

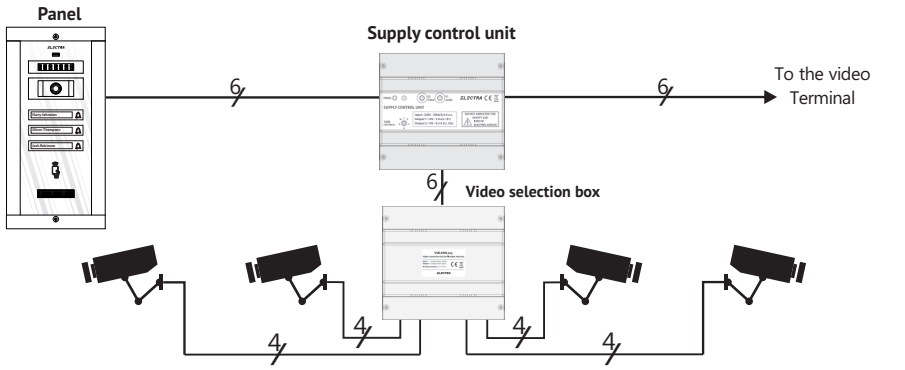


Additional terminals in parallel (optional)

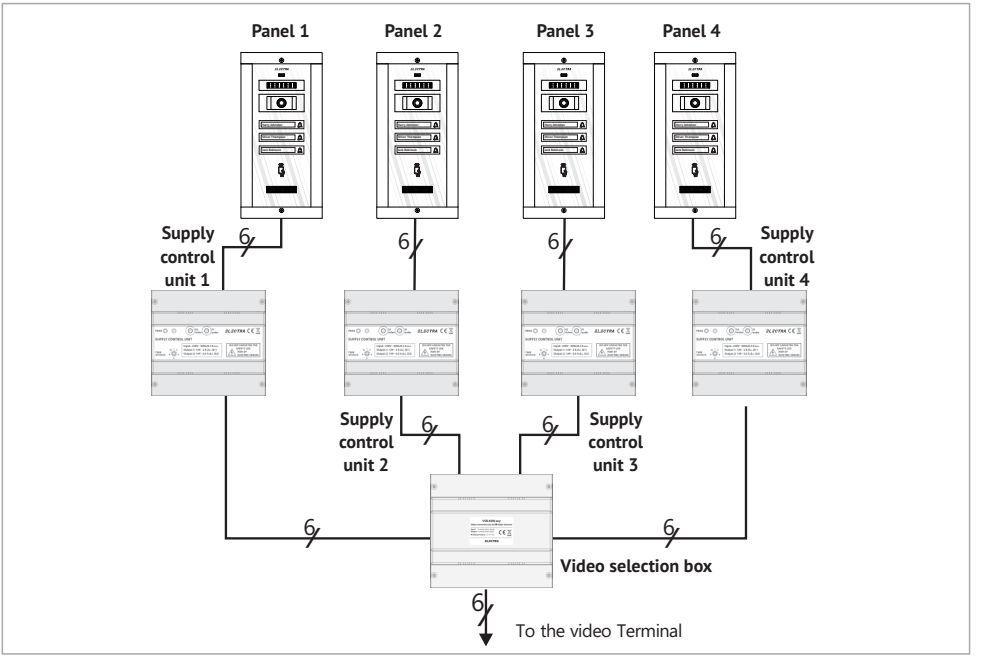


For more than 1 external video camera and outdoor panels in parallel, a **video selection box is necessary**.

3.1 Block diagram of the video selection box connected with 4 additional video cameras (optional)



3.2 Block diagram of the connection of additional Outdoor panels (optional)



4 INSTALLATION

4.1 Recommended cables

Outdoor panel → Supply control unit → Video connection box→Video terminal

UTP CAT5e (AWG24) cable for distances of maximum 70 m between the outdoor panel and the supply control unit and 250m between the outdoor panel and the video terminal.
For distances greater than 250 m, please request additional information from the producer.

Supply control unit → Electromagnetic lock (optional)

Flexible, multistrand cable, (Cu) 2 or 3 x 0,75 mm² for distances of maximum 50 m or (Cu)2 or 3 x 1 mm² for distances of maximum 100 m.

Supply control unit → 230 V AC network

Flexible, multistrand cable, (Cu) 3 x 0,75 mm²

External video camera (optional) → Supply control unit

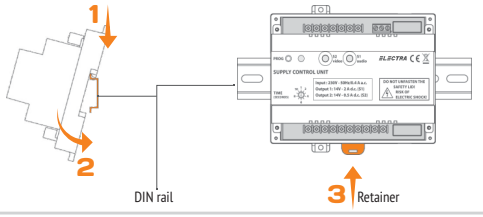
UTP CAT5e (AWG24) cable for distances of maximum 200m between the external video camera and the Supply control unit.
ATTENTION! Because the signal output of the video camera is on a coaxial cable, a balun adapter will be used for the passage from a coaxial cable to AWG24 cable, installed between the signal output of the video camera and the Vin2 and GNV2 inputs of the Supply control unit.

4.2 Safety instructions for installation

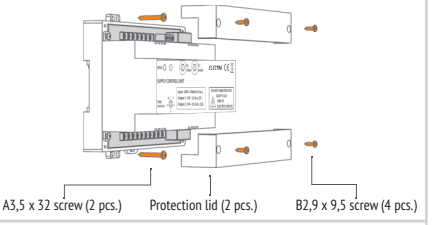
- **ATTENTION! The installation, the connection to the 230V/50 Hz network and the maintenance of the Supply control unit will only be carried out by authorized personnel!**
- **The installation of the Supply control unit is recommended to be made within an electrical panel.**
- **ATTENTION! DO NOT UNFASTEN THE FRONT LID! DANGER OF ELECTRIC SHOCK! Only the protection lids of the connections can be unfastened.**
- **ATTENTION! It is mandatory for the supply of the Supply control unit from the 230 V/50Hz network to be made through two automatic fuses of 10 A (on phase and null). The connection of the F and N terminals of the Supply control unit will be made through two isolated (Cu) wires, with a section of 0,75mm²**
- **ATTENTION! During the installation, connection of the Supply control unit at the 230 V/50Hz network and during service, the safety fuses from the panel must be opened. (POWER OFF)**
- **The connection of the (Cu) 0,75mm² grounding wire between the grounding terminal of the electrical panel ⏚ and the grounding terminal of the Supply control unit ⏚ is MANDATORY.**
- **IMPORTANT! Before connecting the Supply control unit's supply fuses, check the precision of the connections in the system. Check both visually, and by measurement with an ohmmeter.**
- **IMPORTANT! Install the protection lids of the Supply control unit's connections before connecting the 2 supply fuses (230V/50Hz).**
- **PAY ATTENTION to the polarity of the terminals when connecting them to the Supply control unit of a buffer accumulator (max. 7 Ah). The inversion of the terminals leads to the failure of the accumulator. The installation and connection of the accumulator will be carried out by authorized personnel.**
- **DO NOT TOUCH the wires exiting from the connectors and the terminals of the control supply unit. Disconnect the fuses (10 A) from the supply's phase and null of the Supply control unit.**
- **ATTENTION! Do not supply components of the installation separately (Outdoor panel, Terminals etc.) at tensions higher than 15V DC or directly from the network (230V/50Hz). DANGER OF ELECTRIC SHOCK and of the door phone system's destruction.**

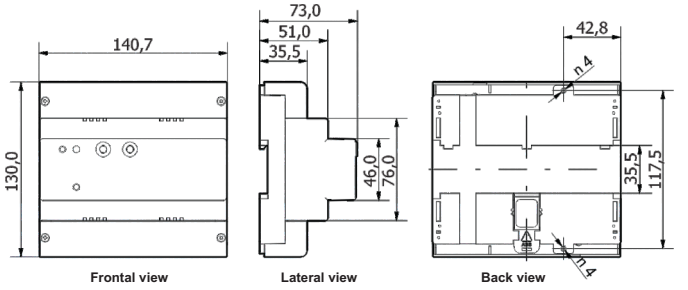
4.3 Installation of the Supply control unit

DIN rail mounting



Wall mounting

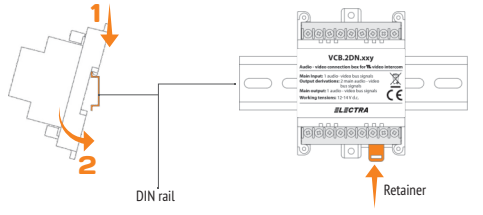




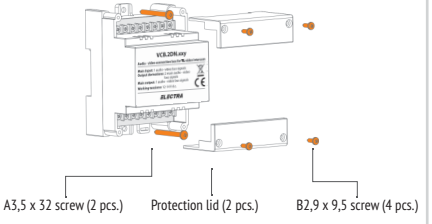
The accumulator will be connected to the terminals of the power supply, after the commissioning of the system.

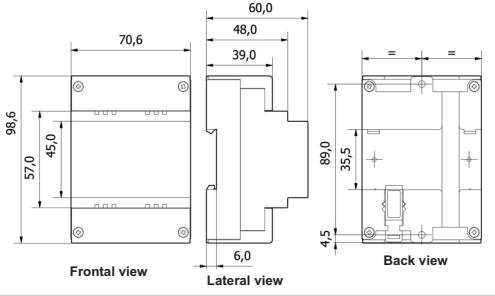
4.4 Installation of the Video connection box

DIN rail mounting



Wall mounting

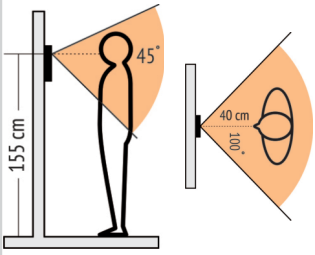




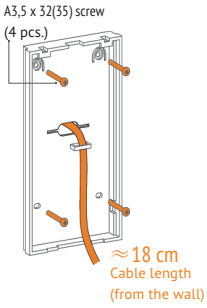
4.5 Installation of the video Terminal

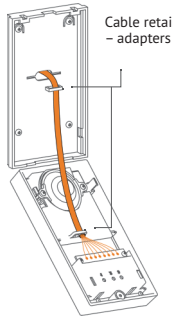
EN

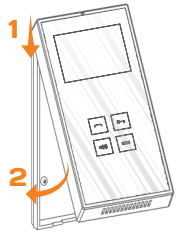
Before starting...

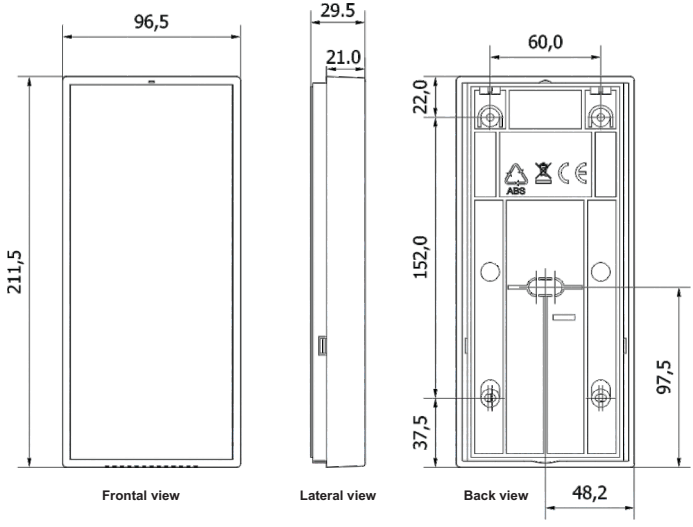


The terminal will be placed at the 155cm height (recommended height)







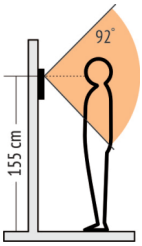


4.6 Installation of the Outdoor panel

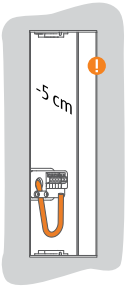
The Outdoor panel is installed at the entrance of the property or building, on the body closest to the access door, at a height of approx. 1.7 m (upper part) from the ground, protected from rain and sunrays.

The Outdoor panel keys numbering is from the bottom up, the first key meaning address 1.

Before starting...

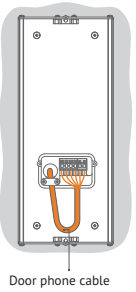


*The **Outdoor panel** is installed at the entrance to the building, on the body closest to the entrance door.*

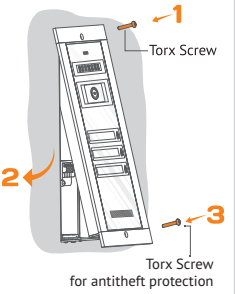


The frame of the case must be at the level of the wall's surface.

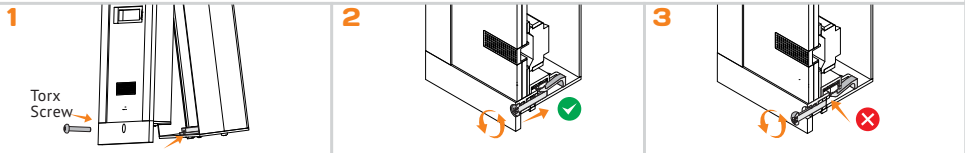
≈20 cm
cable length



Door phone cable

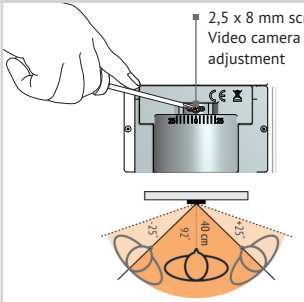


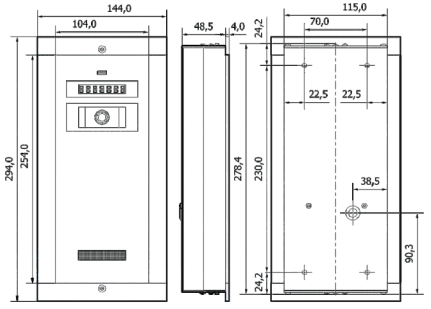
Antitheft protection



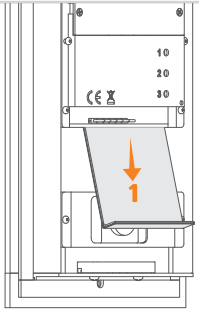
The Torx screw must be completely screwed. Otherwise, when the system is powered, the panel emits a permanent acoustic signal. This warning function is useful if an unauthorized person tries to open the Outdoor panel. The alarm turns on immediately after one starts to unscrew the Torx. The function is turned off during the programming of the panel's parameters.

Detail of camera adjustment

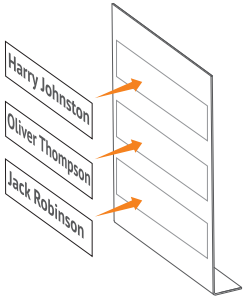




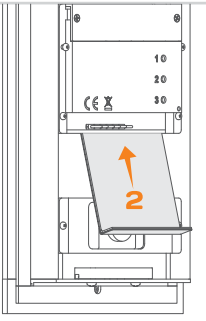
Customization of the name display



Remove the plastic pad from the keyboard module

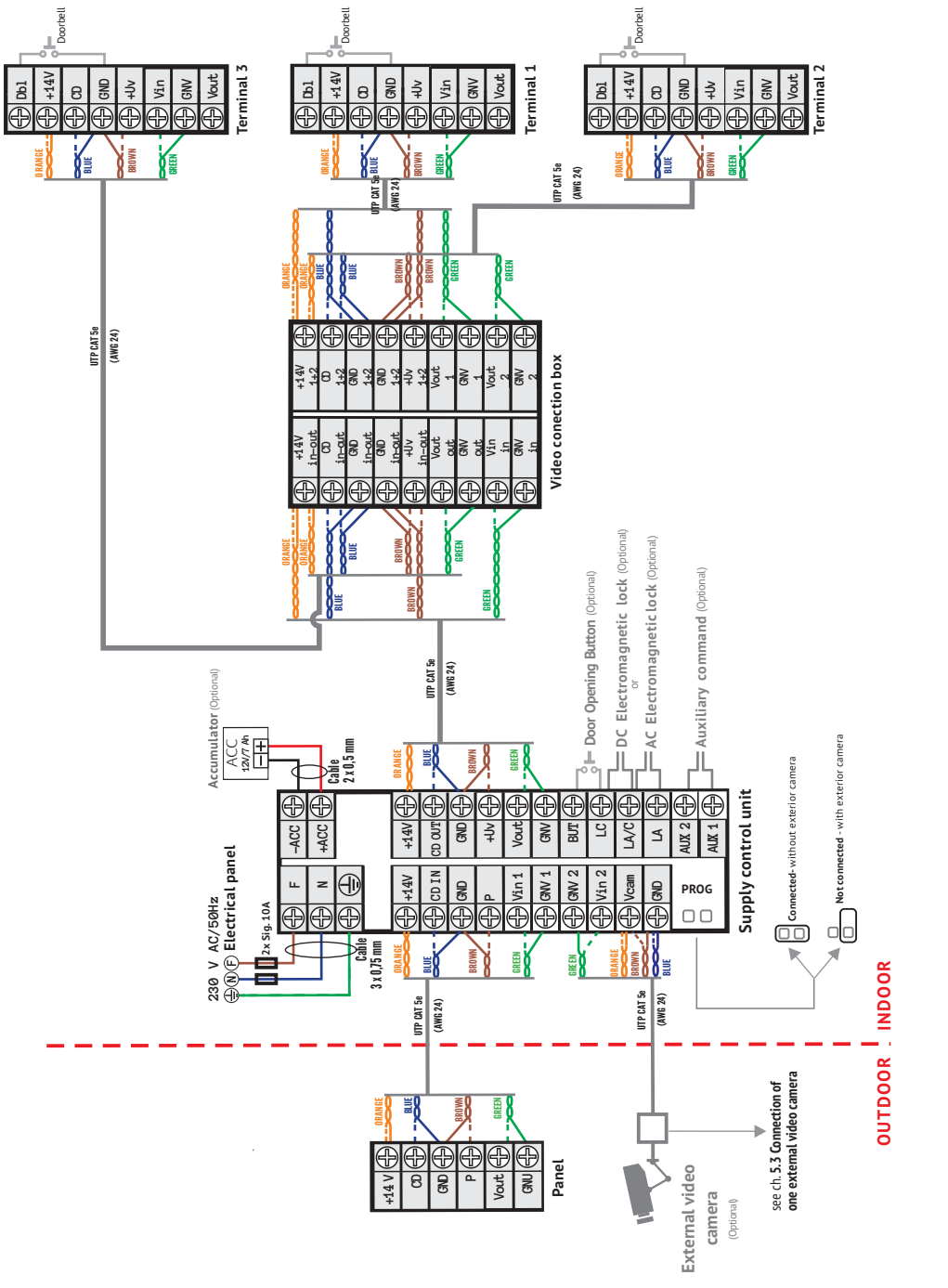


Affix a sticker with the name, cut to size, on the white space allocated to it.



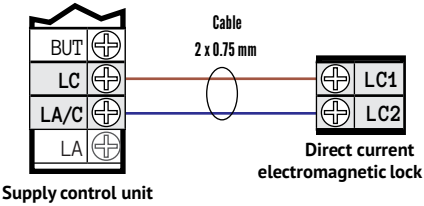
Insert the pad back into the keyboard module

5 CONNECTION DIAGRAM EN



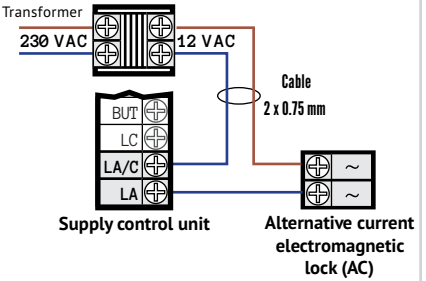
5.1 Installation of the electromagnetic lock (optional)

Direct current (DC)



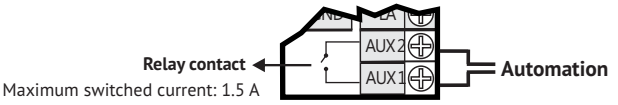
- *The Supply control unit can supply a current of max. 1A for the supply of the lock.*
- *The tension of +14 V DC is present on the LC terminal of the Supply control unit.*
- *The connection of a lock actuating button from the interior of the building will be made at the BUT and LC terminals of the Supply control unit.*

Alternative current (AC)

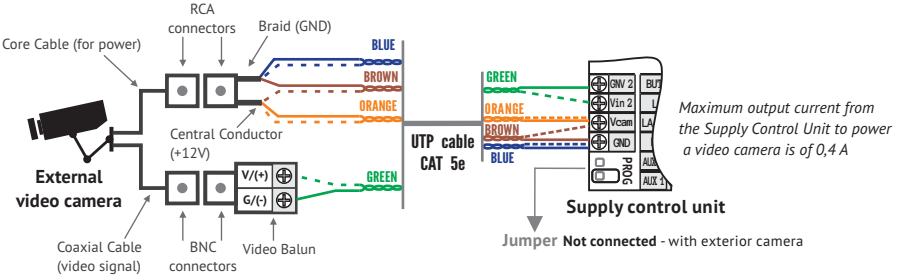


- *The Supply control unit can supply a current of max. 1A for the supply of the lock.*

5.2 Connection of the auxiliary command (optional)



5.3 Connection of one external video camera (optional)



If in a system you want to install **more than one** External video camera, you need to connect it to the Video Selection Box (VSB.4DN.BLW)

6 COMMISIONING OF THE SYSTEM

6.1 Description of the supply control unit

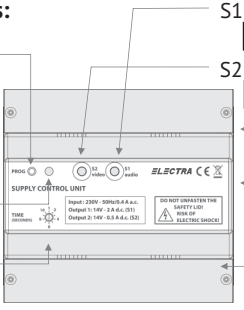
The Supply control unit includes:

*PROG. : programming button

**The kit does not require programming. This button is used only if you add additional Terminals or panels to the system.*

LED signaling of programming / defect within the system

TIME:
Lock timing adjustment



S1: presence of tension at the +14V - GND terminals

S2: existence of tension at the +Uv - GND terminals

Protection lid for the connections

Front lid

Protection lid for the connections

6.2 Checking the precision of the connections in the system and the connection of the Supply control unit

Check the precision of the connections in the system!

The +14V, GND, CD, GNV and Uv signals are common to all components of the system.

The Vin and V out signals are specific to each Terminal or video camera (they are not to be connected jointly).

Any short circuit between them leads to the non-operation of the entire system.

Make sure that the Torx screw of the Outdoor panel is completely screwed to prevent turn ing on the anti-theft alarm.

Connect the Supply control unit to the 230 V AC network, by connecting the two automatic 10A fuses, installed on phase and null.

Optionally, connect the accumulator to the +ACC and –ACC terminals of the Supply control unit.

***PAY ATTENTION** to the polarity of the accumulator!*

Check the existence of the supply tensions with the values mentioned below, at the terminals of the Supply control unit (use a direct current voltmeter)

- Tensions measured at the terminals of the Supply control unit :

  +14V – GND /13,8 ... 14,3V DC

  +Uv – GND /13,5 ... 14,3V DC

- Tensions measured at the terminals of the Outdoor panel and at the terminals of the Terminals:

  + 14V - GND min. 12 V DC | anywhere in

  + Uv - GND min. 12 V DC | the system

6.3 Checking the functions and adjustments

Check anywhere in the installation, during the call and the communication, and make sure that the +14V – GND and +Uv – GND supply tension is higher than 12,0V.

Check the functions of the Terminals and of the Outdoor panel: call, communication, access, audio and video monitoring. The system is adjusted by the producer in what concerns the audio part, for standard functioning conditions.

How to adjust the audition level of the video Terminal:

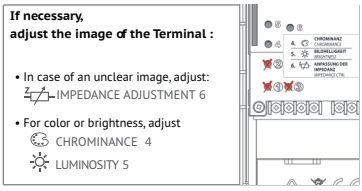
Through consecutive touches of the VOLUME key, different audition levels are obtained: OFF (mute) – red LED, MEDIUM white-red LED, MAXIMUM – white LED

After checking leave the Terminal on open volume position (white LED on).

How to adjust the image characteristics on the video Terminal:

If due to the type of system (type of cable) the image on display is not qualitative, successively adjust (on the back of the Terminal) until the maximum result is obtained, in the following order:

1. Impedance adjustment;
2. Luminosity;
3. Chrominance.


If necessary,
adjust the image of the Terminal :
• In case of an unclear image, adjust:
IMPEDANCE ADJUSTMENT 6
• For color or brightness, adjust
CHROMINANCE 4
LUMINOSITY 5

6.4 Troubleshooting

Any intervention in the system will be made with the system disconnected from the 230V AC supply network (the phase and null fuses are opened) and from the accumulator (the +ACC terminal is disconnected).

No.	Problem	Signaling	Possible causes	Solutions
0	The system functions correctly	Control unit: S1: green S2: green PROG:———	———	———
1	The system does not function (Supply control unit without accumulator)	Control unit: S1: ——— S2: ——— PROG: ———	Lack of tension from the 230V AC network	Check the 10A fuses from the electrical panel and the 1,6A Fuse 1 from the Supply control unit input. Check the continuity of the supply cables.
2	The system does not Function (Supply control unit without accumulator)	Control unit: S1: intermittent green S2: ——— PROG: ———	Short circuit in the system between +14V and GND	Identify the spot of the short circuit. Remedy the defect and turn the system on.
3	There is no image on the display, the system functions only on audio mode	Control unit: S1: green S2: ——— PROG:———	Short circuit in the system between +Uv and GNV.	Identify the spot of the short circuit. Remedy the defect and turn the system on.
4	The CALL does not function	Control unit: S1: green S2: green PROG:——— Terminal:The keyboard is functioning, it does not take the call command. Outdoor panel: Emits an error signal .	No CD connection at the terminals of the Termina, or CD wire interrupted before reaching the terminals of the Terminal.	Connect the CD to the Terminal or check the continuity of the CD wire from the audio connection box to the Terminal.
5	The CALL does not function	Control unit: S1: green S2: green PROG: intermittent red Terminal: The keyboard is functioning, it does not take the call command. Outdoor panel: Emits an error signal	Short circuit between the CD and GND, +14V connections.	Remedy the short circuit. (by case)
6	During call or monitoring there is no image on the screen of the Terminals. All the other functions of the system are active	Control unit: S1: green S2: green PROG: ———	- Lack of tension between the +Uv and GNV terminals of the Terminals - Lack of Vout connection at the terminals of the Outdoor panel or at the Vin or Vout terminals of the Supply control unit.	- Check the +Uv connection between the Supply control unit – Video connection boxes – Terminals. - Locate and remedy the defect.

7	During the call and/or communication, the image on the Terminal's screen presents horizontal or oblique lines, fixed or mobile (moar)	Control unit: S1: green S2: green PROG:———	The wires connected to the Vin / Vout and GNV terminals are not twisted until close to the terminals (until approx. 1 cm from the terminals).	Locate and remedy the defect.
8	At a repeated monitoring command on any video Terminal installed, the image disappears (black LCD screen)	Control unit: S1: green S2: green PROG: ———	The JP1 jumper on the Supply control unit is NOT CONNECTED, at each stroke of the MONITORING key, the image on the screen of the Terminal will change from the image sent by the video Outdoor panel to off screen (there is no video signal connected to the Vin2 input of the Supply control unit)	Connect the JP1 jumper. Check that at a repeated monitoring command, the image on the Terminal's screen remains unchanged.
9	The system functions (Supply control unit with accumulator)	Control unit: S1: intermittent red – green S2: green PROG: ———	The accumulator is in charging mode	ok
10	The system functions (Supply control unit with accumulator)	Control unit: S1: intermittent red – green S2: green PROG: ——— acoustic signal	Defect accumulator or discharged	Replace the accumulator
11	The system functions (Supply control unit with accumulator)	Control unit: S1: red S2: ——— PROG: ———	Lack of tension from the 230V AC network The system functions powered by the accumulator	Check the 10A fuses from the electrical panel and the 1,6A Fuse 1 from the Supply control unit input. Check the continuity of the supply cables.

7 USE

7.1 User safety instructions

Do not hit the glass screen with hard objects!
If the front glass screen cracks, DO NOT touch the product!

7.2 Use of the video Terminal

Stand-by

1 STAND-BY

The keyboard is not backlit.

At the first touch, the keyboard is backlit and the Terminal may receive the following commands:

AUDIO – VIDEO MONITORING
+VIDEO CAMERA SELECTION
Monitoring duration: 10 s

By touching this key, you may see and listen to what goes on at the entrance, in front of the Outdoor panel. Monitoring is not possible if another Terminal of the system is being called or is during communication.

// If several video cameras are installed within the system, the successive stroke of the key changes the camera through which the monitoring is done.

VOLUME ADJUSTMENT OR
"TERMINAL TURNED OFF"

By successive touches of this key, the 3 volume levels are passed through: maximum (white LED), medium (red-white LED) and turned off (red LED). The red LED will remain permanently turned on until the key is pressed again.

Call

2 CALL AND COMMUNICATION

Call duration: maximum 15 s (3 calls)

ANSWER THE CALL
Communication duration: maximum 2 min.

The LED of the key blinks and the display shows the image sent by the video camera of the Outdoor panel. By touching the key, communication is initiated. The LED does not blink anymore

Do not touch the key during communication.

END COMMUNICATION
NO ACCESS!

The second touch of the key ends communication without granting access and the Terminal returns to stand-by mode.

Communication

3 ACCESS

ACCESS and
END COMMUNICATION!

After the command, the lock is unblocked for 1...10 s for the access of the visitors.

// You cannot grant access without having a prior communication. .

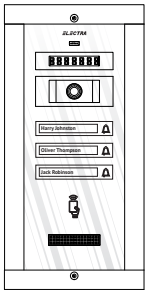
4 COMMAND AUX

AUXILIARY COMMAND

No matter what the state of the Terminal is: monitoring, call or communication, this key may action an automation connected to the system: auto access or garage gate, lighting system etc.

7.3 Use of the Outdoor panel

EN



1 STAND-BY

The key of the Outdoor panel and the inhabitant's name are permanently backlit.
The intermittent RED led signals the presence of video monitoring.

2 CALL AND COMMUNICATION

Call duration: maximum 15 s (3 calls)
Communication duration: maximum 2 min.
Touch the key 🔔.
The call to the inhabitant is signaled acoustically. You may end the call by pressing again the key 🔔. If the inhabitant answers, communication is initiated. If access is granted, the panel emits an acoustic signal, and the lock remains unblocked for maximum 10 seconds. If the inhabitant does not answer, after a minute, the panel returns to stand-by mode.

7.4 Use of the Access tag

The symbol indicates the RFID tag reading area.

The tags are already memorized. When used, the panel emits a recognition acoustic signal and the symbol blinks green**.**

7.5 Programming additional tags

Step 1	Supply control unit	**PROG**	Long stroke of **PROG**. The red LED is on.
Step 2	Outdoor panel	→	Touch with the tags, piece by piece, the symbol. After each memorized tag → [BEEEEEP].
Step 3	Supply control unit	**PROG**	Press **PROG**. The red LED is off, programming procedure is terminated.

Any error during programming is signaled with [BEEEEEP].
In this case, the procedure must be recommenced from **Step 2**.

7.6 Deleting all the programmed tags

Use this procedure only **if you lost one or more of your tags**. The remaining ones must be programmed again.

Step 1	Supply control unit	**PROG**	Long stroke of **PROG**. The red LED is on.
Step 2	Outdoor panel	**First 🔔 Key from bottom up**	**Long press the key** 🔔 → [BEEEEEP] . The Panel enters **programming**. **7 short touches** 🔔 → **2 x** [BEEP]. Immediately **one long press** 🔔 → [BEEEEEP]. The tags are deleted.
Step 3	Supply control unit	**PROG**	Press **PROG**. The red LED is off, programming procedure is terminated.

8 MAINTENANCE

The Outdoor panels must be kept away from corrosive substances, lime or mechanical shocks. The Terminals must be kept away from water, or any other liquids, mechanical shocks, fumes, dusts etc.
The components of the system can be cleaned with a piece of soft, cotton cloth.
The optional accumulator connected with the Supply control unit will be replaced after the expiry of its life span. The Supply control unit ensures the accumulator's charging, as long as the accumulator is not defect. The state of the accumulator is indicated by the signals of the LED S1 and the acoustic warning in case of a defect.

9 WARRANTY

A three year warranty is granted, from the purchase date, on the basis of the proof of purchase and if the system was used according to the technical manual.

NO WARRANTY IS GRANTED for: inappropriate installation and use, deliberate damaging, theft, arson, natural disasters, unauthorized interventions to the system, the lack of protection of the system's components in case of renovation activities in the building.

The BELLCOME video systems for residential buildings are produced in compliance with the EU standards and bear the CE conformity marking.

10 AUTHORIZED REPRESENTATIVE of ELECTRA S.R.L.

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Made in EU

CE RoHS